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First Named Inventor: Satoru Obara

Amendments to the Claims

This is a complete listing of claims and supersedes all other listings:

1. (Currently amended) A method for producing a dendrimer having a structural repeating unit which is represented by formula (1) and which contains a linear portion including a thienylene moiety and a branch portion Y formed of an optionally substituted trivalent organic group, the method being based on the convergent method, characterized in that the method comprises reaction step 1 of converting α -position hydrogen of the thiophene ring of a thienylene-moiety-containing compound (a) for forming end moieties to an active group V_1 which undergoes Suzuki cross-coupling reaction, to thereby form compound (b); reaction step 2 of subjecting a compound (c) to Suzuki cross-coupling reaction with the compound (b) to thereby yield compound (d), the compound (c) having a linear portion and a branch portion Y and having, at the branch portion Y, two active groups V_2 which undergo Suzuki cross-coupling reaction with the active group V_1 reaction step 3 of converting α -position hydrogen of the thiophene ring of the thus-formed compound to an active group V_1 which undergoes Suzuki cross-coupling reaction, and reacting the compound (c) with the active group V_2 , to thereby form a dendron of a subsequent generation; and a step of repeating the reaction step 3 in accordance with needs, to thereby form a dendrimer:

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(wherein Z represents a single bond or an optionally substituted divalent organic group having no active group; each of R_1 and R_2 is selected from among a hydrogen atom, an alkyl group, and an alkoxy group; Y represents an optionally substituted trivalent organic group; Y_1 is identical to Y or represents an organic group having a skeleton identical to that of Y; W may be absent or represents an optionally substituted monovalent organic group having no active group; m is an integer of 0 or more; and each of V_1 and V_2 serving as active groups is selected from active groups which undergo Suzuki cross-coupling reaction, V_1 and V_2 being able to be mutually cross-coupled, and wherein V_1 is $-B(OH)_2$ and V_2 is -Br).

- 2. (Canceled)
- 3. (Canceled)
- 4. (Previously presented) A method for producing a dendrimer according to claim 1, wherein, in the case where a compound used in the Suzuki cross-coupling reaction is a thiophene organic boron compound containing boron, the thiophene organic boron compound is gradually added in a continuous or intermittent manner to a reaction system containing the other counterpart compound, thereby performing Suzuki cross-coupling reaction.
- 5. (Previously presented) A method for producing a denrimer according to claim 1, which further includes a reaction step of converting α -position hydrogen of the thiophene ring of a compound (e) produced through singly or repeatedly carrying out the reaction step 3 to an active group V_1 , to thereby form a compound (f); and a reaction step of reacting the compound (f) with a compound (g) having Y_2 serving as a core, to thereby form a compound represented by formula (2):

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$$Y_2 - V_2$$
 (g)

(wherein Y₂ represents an r-valent organic group, and r is an integer of 1 or more)

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- 6. (Canceled)
- 7. (Canceled)
- 8. (Canceled)
- 9. (Canceled)
- 10. (Canceled)